

Integrated System Control (ISYSCON V4)

ISYSCON is a family of systems that provide personnel the capability to maximize the availability of communications and data distribution systems in support of the combat commander. Two variations of the ISYSCON provide a block strategy in accordance with the requirements document. One variation consists of three upgrades and is referred to as Versions 1-3 ((V)1-3) and the other variation is ISYSCON (V)4. The IOT&E for ISYSCON (V)4 will validate that Block 4 requirements are met.

The ISYSCON (V)4 supports information operations and automation in support of the Army's digitized combat forces, their weapon systems, and the other related battlefield automation systems. It performs two main functions: management of the combat net radio (commonly referred to as the Lower Tactical Internet or wide area network (WAN)) and the Tactical Operations Center local area network (LAN). The ISYSCON (V)4 consists of commercial off-the-shelf, government off-the-shelf, and government-developed software applications implemented on the Force XXI Battle Command, Brigade and Below (FBCB2) Appliqué hardware and the Panasonic CF-28 Toughbook. Although most functions can be performed on both hardware platforms, ISYSCON (V)4 is a bifurcated system as some functionality can only be performed on one of the platforms. At division through battalion, ISYSCON (V)4 provides signal personnel a system to manage the combat net radio based WAN for the digitized force. The ISYSCON (V)4 also provides LAN management services for wired and wireless LANs at all echelons. LAN management includes planning, configuring, fault identification, and fault resolution for all LAN network devices located within the Tactical Operations Centers that support internal, as well as external, communications.

TEST & EVALUATION ACTIVITY

The ISYSCON completed System Segment Acceptance Testing at the contractor's facility in May 2002, and participated in the combined FBCB2/Maneuver Control System (MCS)/ISYSCON (V)4 Field Test 5 in September 2002 (development test).

The FBCB2/MCS/ISYSCON (V)4 IOT&E was scheduled in April/May 2003, but has been indefinitely postponed due to deployment of the 4th Infantry Division which was the scheduled test unit.

TEST & EVALUATION ASSESSMENT

The ISYSCON (V)4 Block 4 software successfully completed technical testing at the contractor facilities in May 2002. All three programs went to Field Test 5 in September 2002. Results of Field Test 5 indicate that ISYSCON (V)4 software met two of the five IOT&E entrance criteria and was not on course to participate in the combined IOT&E. However, the Army evaluator assessed that the ISYSCON (V)4 software was ready to deploy, but would require substantial contractor support with network database/address-book management. Field Test 5 results also indicate that MCS was not able to meet its IOT&E entrance criteria. The combined IOT&E was delayed indefinitely because of real world deployments and immature software.

The ISYSCON (V)4 devices used with the Blue Force Tracker variant of FBCB2 as deployed during Operations Iraqi and Enduring Freedom were at the theater level and operated by contractors. A single Toughbook running modified ISYSCON (V)4 software monitored the locations of all Blue Force Tracker systems. The ISYSCON (V)4 contractor-operators were able to monitor the status of the network and have the satellite providers update location reports when they failed to meet currency requirements.



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ARMY PROGRAMS

ISYSCON(V)4 is deployed within the original terrestrial-based communications architecture with the digitized forces of the 4th Infantry Division in Iraq. DOT&E has received no information as to ISYSCON (V)4 performance in support of the 4th Infantry Division.

It is not known when the combined FBCB2/MCS/ISYSCON (V)4 IOT&E can be scheduled due to test unit deployments. The Army is planning to conduct a development test/operational test in 2QFY04 and, combined with available data from Operation Iraqi Freedom, is seeking a full-rate production decision for FBCB2 Blue Force Tracker in FY04. ISYSCON (V)4 is developing a test and evaluation strategy to also support a full-rate production decision in FY04. DOT&E is working with the Army to ensure IOT&E standards are met.

The development of key enablers like ISYSCON has shown the increased importance of system-of-systems testing, and the difficulties that arise in coordinating requirements, development and fielding schedules, threats, scenarios, and test architectures. As the Army continues to move towards the Future Force and Future Combat System, it should derive many lessons learned from these programs and the challenges associated with combined test events.